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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/452,809	12/02/1999	HAE CHANG YANG	0465-0636P-S	1780

7590 07/17/2002

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EXAMINER	
FARAHANI, DANA	

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Acti n Summary	Application No. 09/452,809	Applicant(s) YANG, HAE CHANG	
	Examiner Dana Farahani	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 3, line 5, the expression "Fig. 2" should be "Fig. 3".

Appropriate correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities: the word "maim" on line 3 should be "main". Appropriate correction is required.

3. Claim 3 is objected to because of the following informalities: number "2" should be "3". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6 is rejected under 35 U.S.C. 102(b) as being anticipated by Jeong (U.S. 5,821,587).

Regarding claim 1, Jeong discloses, figure 1, an ESD protection circuit comprising: a pad 100 and a main chip Q3; and a plurality of transistors Q1, Q2, and Q4, each connected between the pad and the main chip and having a resistor Rs

connected only to an input terminal. Although Jeon does not disclose plurality of resistors in parallel to each other are connected to the input terminal, it would have been within the level of ordinary skill in the art to make such resistor connections in order to control the flow of the current from the input.

Regarding claims 2 and 3, Jeong discloses in figure 6, an ESD protection circuit comprising a substrate 31; a transistor with source/drain 35 on the substrate; a first insulating film 37 formed on the substrate inclusive of the transistor and having a first contact hole 37a to an input terminal of the transistor; a second insulating film 41 formed on the first insulating film and having a second contact hole 41a; and a pad 43 formed on the second insulating film inclusive of the second contact hole. Jeong dose not disclose in this embodiment a buffered layer on the first insulating film. Jeong discloses in figure 1, a resistor or buffered layer Rs connected to an input pad. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a buffered layer beneath the input pad 43 on the first insulating film in order to make a resistor in contact with the input pad;

Regarding claim 4, the buffered layer 35 is polysilicon (see column 4, lines 10-15).

Regarding claim 5, Jeong discloses the claimed invention except for using silicide in the buffered layer. It would have been obvious matter of design choice to use silicide, since applicant has not disclosed that using silicide solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with polysilicon.

Regarding claim 6, Jeong discloses the claimed invention except expressly disclosing the main chip comprising more than one discrete component. It would have been within the level of ordinary skill in the art to use more than just one transistor as a chip.

Response to Arguments

6. The corrections to the claims and disclosure are acknowledged, and therefore, the above objections are withdrawn.

7. Applicant's arguments filed on 5/10/02 have been fully considered but they are not persuasive.

The applicant argues that transistor Q3 is not a chip, but a discrete component. The Office reminds the applicant that the words in the claims are given their broadest interpretation. According to Webster's Collegiate Dictionary, Tenth Edition, the word chip means a small wafer of semiconductor material that forms the base for an integrated circuit. Therefore, a transistor, which inherently has a substrate and semiconductor components, is also a chip.

The applicant further argues that one of ordinary skill in the art would not be motivated to replace the metal layer 39 in Jeong reference with a resistor, since the concept of a resistor and a conductor are " diametrically opposed". The examiner disagrees. It is well known in the art that all the metal conductors have resistance (see Prior Art below). Therefore, the concept of a metal conductor and resistor are not diametrically opposed, as applicant alleges.

Prior Art

The prior art is made of record and not relied upon is considered pertinent to applicant's disclosure. See for example Engineering Electromagnetics by William H. Hayt, Jr., page 121, the last paragraph, wherein it states metals such as copper and silver have resistance too, although those metals are excellent conductors.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703)306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
July 10, 2002

OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800